The relationship between adverse childhood experiences and educational disadvantage

The relationship between adverse childhood experiences and educational disadvantage: A critical perspective

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Abstract

In the last 25 years, converging evidence has supported the view that adverse childhood experiences (ACEs) have long term negative impacts on physical and mental health. More recently, ACEs have been negatively associated with a range of educational measures. As educational attainment is a determining factor in later socioeconomic position, the education system is likely to play a significant role in responding to ACEs. A critical and reflective examination of the available research will be crucial to intervening in evidence-based ways. While the ACEs movement has been instrumental in highlighting the educational impact of inequality in childhood, the ACEs research is often difficult to parse due to a reliance on checklists and a cumulative risk model. At present, the mechanisms that link ACEs to educational outcomes are still under-researched. Continued discussion of the concept of ACEs and the strengths and limitations of the current research is warranted.

Keywords: *ACEs, education, attainment, engagement, violence, socioeconomic*

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Introduction

Increasingly, there is recognition that the consequences of adverse childhood experiences (ACEs) constitute a significant public health concern. In response, the Scottish Government has committed to preventing, recognising, and addressing the impact of ACEs by ensuring that every public sector service is aware of the need to address the inequality associated with early adversity (Scottish Government, 2018). Education success is a critical element in determining the life course, therefore it is a stark fact that young people who have experienced four or more ACEs are twice as likely as their peers to leave school without educational qualifications (Hardcastle et al., 2018). The education system subsequently presents a 'golden opportunity' for positive intervention in the lives of children who have experienced adversity.

Research on the potential impacts of ACEs on education is gathering pace but is currently lagging behind research on the physical and mental impacts (e.g. Burke et al., 2011; Zarse et al., 2019). In this article we review a snapshot of the available research, while discussing how a critical view will be instrumental in determining evidence-based responses.

ACEs and educational disadvantage

ACEs are defined as 'experiences which require significant adaptation by the developing child in terms of psychological, social and neurodevelopmental systems, which are outside of the normal expected environment' (Lacey & Minnis, 2020:117). ACEs are commonly defined by childhood emotional, physical and sexual abuse, neglect and household challenges, such as parental absence through divorce, death or imprisonment, parental mental health issues, and exposure to parental substance abuse or domestic violence. Studies often use a subset of these items or include additional adversities, such as being care-experienced (Allen & Donkin, 2015), making comparisons difficult.

Accumulating evidence, from mainly cross-sectional studies, suggests that ACEs have a significant impact on a range of educational outcomes. Learners who have experienced ACEs are less likely to engage with homework, care about school and are more likely to repeat school years (Bethel, Newacheck, Hawes & Halfon, 2014; Robles et al., 2019). ACEs have also been linked to teacher-ratings of literacy, reading, maths, attention skills and behaviour in the early years (Jiminez et al., 2016; Blodgett & Lanigan, 2018). The likelihood of leaving school without educational qualifications, not being in education or employment post school are twice as high for those who experienced ACEs than those who have not (Hardcastle et al., 2018; Jaffee et al., 2018). Potential cognitive impacts have been noted, for example, Delaney-Black et al. (2002) found relationships between child reports of exposure to violence and scores on standardised measures of IQ and reading ability, after

controlling for a range of confounding factors. However, the use of ACE checklists warrants further discussion.

Advantages and disadvantages of the cumulative risk model

Cumulative risk models utilise a total ACEs score, assigning equal weighting to different types of ACEs. This model is both a major strength and core weakness of ACEs research (Zarse et al., 2019). Its strength lies in providing a parsimonious tool to demonstrate that exposure to a range of adversities increases risk. Its weakness lies in ignoring the type, severity or duration of the experience. This is particularly problematic for cross-sectional studies, which rely on a 'snapshot' of a given point in time. Based on longitudinal data, Maryatt and Frank (2019) evidenced that by age 8, 65 per cent of Scottish children had experienced an ACE, with parental mental health and separation/divorce being the most common. However, an earlier study (Maryatt & Martin, 2010) indicated that repeated mental health problems were more strongly related to children's social, behavioural and emotional development than transient mental health issues. These nuances are lost when duration or severity is discounted.

Further nuance is lost when all types of ACEs are given equal weighting. Studies comparing types of adversity indicate that some may be more relevant than others to educational outcomes. For example, a meta-analytic study conducted by Murray, Farrington, and Sekol (2012) demonstrated that having a parent in prison is a risk factor for antisocial behaviour, but not for poor educational outcomes. Similarly, the results of a prospective longitudinal study, indicated that emotional neglect was related to educational attainment, while physical abuse was not (Houtepen, 2020).

This leads to a more pressing point, related to definitions of ACEs. ACEs checklists comprise a potentially chaotic mix of experiences that, by diagnostic definitions, constitute trauma (American Psychiatric Association, 2013), or risk factors that could constitute tolerable or intolerable stress depending on a child's context. Indeed, the terms 'trauma' and 'ACEs' are frequently used interchangeably in public discourse. The *Transforming Psychological Trauma Framework* (NHS, 2017:20) provides a useful diagram, demarcating childhood experiences, which would be characterised as traumatic (emotional, physical and sexual abuse), from other ACEs. Differentiating ACE types may provide more nuanced understanding of the impact of ACEs on educational outcomes. Interpersonal violence is a traumatic experience which has been reliably related to educational indicators (Fry et al. 2018). Furthermore, specific types of violence have been associated with different outcomes. Those who had experienced sexual or physical violence had higher drop-out rates than those who had experienced other types of violence, while absenteeism was related mainly to bullying in boys and sexual violence in girls (Fry et al. 2018). Distinguishing between

different types of adversities may seem academic, however if different types of adversity are associated with different outcomes, the mechanism that link adverse or traumatic experiences to outcomes may differ. Understanding linking mechanisms is crucial for interventions to be effective.

How are ACEs related to outcomes?

Within the ACEs literature there has been a focus on the neurodevelopmental mechanisms through which early adversity lead to toxic stress and allostatic load lead to problematic behavioural outcomes later in life (Teicher et al., 2003: Shonkoff et al, 2012). In particular, the concept of toxic stress has caught the attention of the public and policy makers alike and has been co-opted as catch-all explanatory mechanism. Theoretically, chronic or extreme stress leads to a hyper-responsive stress system which entails rapid responding to perceived stressful situations, coupled with a comprised capacity to regulate emotions and behaviour (Suor et al., 2015), meaning classroom situations which evoke even seemingly minor stress responses could lead to dysregulated emotional responses such as, aggression, disruptive behaviour or non-engagement (Shonkoff et al, 2012).

However, there is little research directly linking ACEs to educational outcomes via neurodevelopmental mechanisms. In fact, McEwen and Gregorson (2019) highlight research on neurodevelopmental mechanisms has largely been developed independently from ACEs research, often using poverty as an indicator of adversity. Despite this, 'findings about biological mechanisms have been imported into the ACEs movement and ACEs training as "ACEs Science"' (McEwen and Gregorson, 2019:790). The focus on neurodevelopmental mechanisms leads to the assumption that a single mechanism can explain the relationship between different types of adverse experiences and outcomes.

McLaughlin and Sheridan (2016) have highlighted, however, that different types of adversity are likely to have different effects on the developing brain. Events associated with threat (such as childhood abuse) have been associated with brain areas associated with the processing of emotion. On the other hand, events associated with deprivation (from neglect, or the absence of cognitive enrichment) have been associated with areas of the brain that assist with executive function, i.e. memory, planning and learning. Thus, challenging classroom behaviours could arise from emotion regulation difficulties or from executive function and intervention that target the core problem are likely to be most effective.

ACEs and socioeconomic position (SEP)

Despite ACEs being highly related to SEP, there has been little political discussion regarding the role of childhood SEP in understanding and addressing ACEs. Current estimates suggest that around 30% of Scottish children live in poverty (Reed & Stark, 2018). There is a clear relationship between SEP

and ACEs (Walsh et al., 2019), with children in the most deprived areas of Scotland almost 12 times more likely to experience three or more ACEs by age eight, compared to those in the least deprived areas (Marryat & Frank, 2019). Similar to ACEs, low SEP has been associated with lower attainment (Sirin, 2005) and potential neurocognitive impacts, such as difficulties with language and memory (Farah et al., 2006).

Studies which have examined the dual effects of SEP and ACEs on educational outcomes highlight the complex relationship. Based on 25-year longitudinal data, Boden, Horwood and Ferguson (2007) found that associations between childhood sexual and physical abuse and educational outcomes were no longer statistically significant once the effect of family and socio-demographic variables were accounted for. Similarly, Houtepen et al (2020) found that the strength of relationships between ACEs and educational outcomes were halved when socio-economic factors (i.e. social class, home ownership and child's ethnicity) were taken into account. Houtepen and colleagues (2020) conclude that interventions targeted solely at ACEs would not positively impact the vast majority of young people at risk of educational failure. The impact of other socio-demographic variables on educational performance remains as pertinent as ever.

Responses to ACEs

The ACEs lens can be applied in different ways, including primary prevention or through secondary interventions to recognise and respond to ACEs. In schools, responses tend to fall into the category of secondary interventions, in which an increasing number of schools are adopting ACEs-aware or trauma-aware practices. ACEs or trauma-informed approaches are not stand-alone interventions, but a framework to guide changes across three key areas of workforce development, trauma-focused services, and organisational environment and practices (Hanson & Lang, 2016). Evaluation of these approaches is limited by variation across schools in how these elements are interpreted, and by a lack of randomised control or quasi experimental designs. A recent systematic review of 67 studies concluded that there was currently insufficient evidence to determine whether trauma-informed approaches had any positive impacts on academic achievement or behavioural issues (Maynard et al, 2017). Thus, there is much work to do in terms of how trauma-informed is interpreted, evaluated and what the cost-benefit ratio is (Berliner & Kolko, 2016).

Despite this, targeted whole school interventions, which have been characterised as ACEs-aware, have demonstrated promising results. For example, pupils in school adopting the Attachment Aware School Programme have shown significant increases in literacy and numeracy skills (Rose et al, 2018; Dingwall & Sebba, 2018). The ACEs movement has been instrumental in shifting the focus away from engrained models of reward and punishment, originally influenced by behaviourism (Hart, 2010),

towards models based on relationships, socio-emotional competence and resilience-building, which can flexibly accommodate the needs of disadvantaged learners.

This focus is particularly conducive to the current climate where the Covid-19 pandemic is likely to have disproportionately affected learners with existing disadvantage. On returning to school, it is unlikely that the most vulnerable learners will simply 'catch up'. Re-instating schools as a place of safety and positive relationships will require knowledge, empathy and resilience on the part of educators. The ACEs movement has highlighted a potential opportunity for an evolution of policy and practice to recognise and meet the needs of all learners, whilst supporting the resilience of educators. Despite the current limitations of ACEs research, the ACEs movement has been instrumental in providing a common language with which to begin discussions around how schools will achieve this.

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